Stradis®

SDM025, SDM026, SDM250 and SDM275

MPEG-2 4:2:2 Decoder

User Guide

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Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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Because of technical progress, specifications are subject to change without notice

Patent Notice

Notice: Use of this product is expressly prohibited without a license under the following applicable patents.

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This is the list of patents covered by the MPEG-2 Patent Portfolio License as of September 30, 1998.

Columbia University
US Re 35,093
CA 2,096,431-C
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General Description

Stradis MPEG-2 Decoders are designed for easy integration into professional MPEG-2 based video systems. These flexible PCI card parses all standard MPEG streams, in all MPEG video and audio formats. It decodes both high-quality 4:2:2 video and 4:2:0 video at up to 50 Mbps – placing it at the head of the class in performance – and generates output in any standard format you require. Additional capabilities include the insertion of digital audio into the SMPTE 259M video signal, a Genlock input for external synchronization from a master sync generator, and a proprietary clock-recovery-and-synchronization circuit that accepts real-time streams from a satellite or terrestrial network. Stradis Decoders can even display the output on a VGA monitor; a special burst transfer mode minimizes bus overhead and produces outstanding video.

Stradis MPEG-2 Decoders – Professional performance for world-class applications.

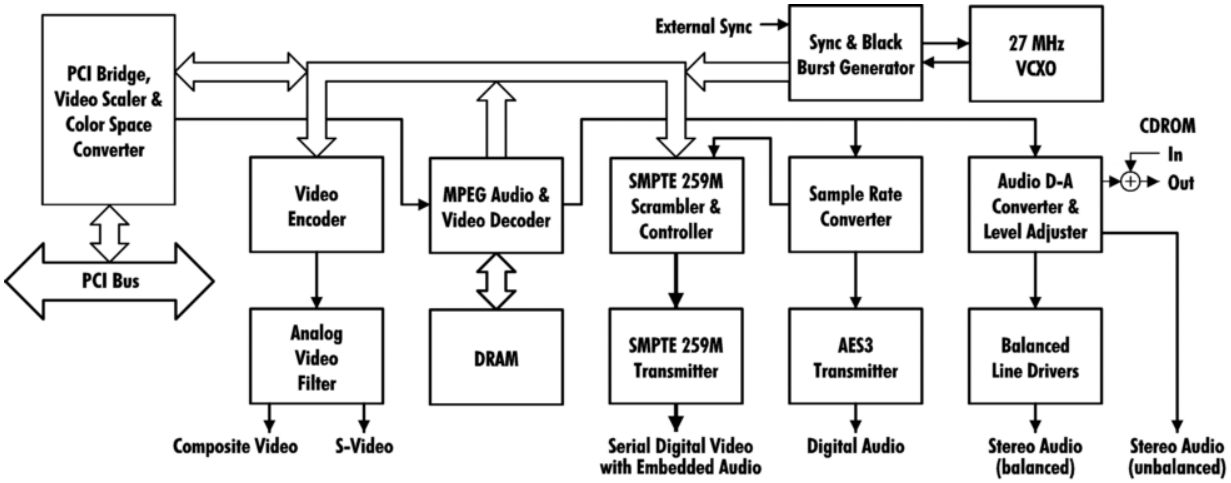
Features

- Application Program Interface for Windows® 98, Windows® 2000 and Windows NT® simplifies integration into your system -- gives you complete control over all functions
- Parses all MPEG streams: MPEG-2 Elementary, Packetized Elementary (PES), Transport and Program Streams and MPEG-1 Elementary and System Streams
- PCI bus master interface uses burst transfer mode to minimize bus overhead
- VCXO with clock recovery for real-time streams
- NTSC (525/60) or PAL (625/50)
- Serial Digital Interface (SMPTE 259M, 270 Mbits/second) video output with embedded audio (SMPTE 272M-A)
- Sample-rate converter to convert MPEG audio bit-rates to SMPTE 272M-A 48 kHz
- Digital audio (AES3) output
- Balanced analog audio output supports 4 dBm nominal with 20 dB headroom with computer controlled nominal line-level adjustment
- Automatic expansion of MPEG-1 and half-D1 formats to full frame size
- Supports 16:9 image aspect ratio using both Wide-Screen Signaling (using ITU-R BT.1119-2) or pan and scan
- Genlock (external synchronization) input
- Video image can be displayed on the computer’s VGA monitor, with scan-rate and color conversion

Applications

- CATV ad insertion systems
- Distance learning systems
- Playback from video file servers
- Theme park systems
- TV broadcast systems
- Video kiosks
- Video over intranet
- Video-on-demand systems
- Advertising content distribution
- Military systems

Block Diagram



Specifications (SDM275)

MPEG Streams	ISO/IEC 13818 and ISO/IEC 11172 compliant. Parses all streams: MPEG-1 Elementary and System Streams and MPEG-2 Elementary, Packetized Elementary (PES), Transport and Program Streams.
MPEG Video	Decodes full 4:2:2 profile or MP@ML (4:2:0) up to 50 Mbits per second.
MPEG Audio	Decodes MPEG-1 layers 1 and 2, two channels, ISO/IEC 11172-3. MPEG-2 layers 1 and 2, two channels ISO/IEC 13818-3.
Digital bitstream input	Through the PCI bus.
Digital video output	SMPTE 259M digital video output with embedded audio (SMPTE 272M-A), 270 Mbits/second, BNC connector.
Analog video outputs	(M) NTSC, (M) NTSC-Japan, (B, D, G, H, I, M, N) PAL. S-Video, mini-DIN connector; composite, 1V P-P, RS-170-A compliant, BNC connector. Luma and chroma signals are filtered in accordance with the standard requirements of RS-170-A and CCIR 624. A programmable cross color reduction filter is also provided.
Audio output	Balanced analog audio level up to 26 dBm, 600 ohms. Nominal output level user selectable. For example, standard 0 dBm or 4 dBm nominal line-level with 20 dB headroom is supported. Balanced analog audio and AES3 digital audio through a positive-locking Switchcraft Tini Q-G miniature connector. High-Z Unbalanced audio (up to 10 dBm) through 3.5mm (1/8") stereo jack. Also outputs through MPC standard sound card connector with CD-ROM audio pass-through.
Genlock	Composite video input, 1V P-P, BNC connector. Locks to the H-sync and V-sync. Provides horizontal delay compensation to less than 19ns of reference signal. Chroma phase adjustable to with 0.7 degrees of reference.
On-Screen Display	8x2 to 740x480 NTSC or 8x2 to 720x576 PAL bitmap, using up to a 16 color palette, 16 levels of blending and 16 levels of shading.
Host system requirements	Pentium-based PC with an available PCI short card slot conforming to specification revision 2.1 running Windows98, Windows 2000, Windows NT 4.0, or greater, with a VGA supporting Microsoft Direct Draw mode. Disk transfer rate may limit the maximum sustained MPEG data rate achievable.
Power requirements	5v (12 W typical), 12v (2.5 W typical), -12v (0.3 W typical)
Size	Standard PCI short card, 6.875 in. (174.63 mm) by 4.2 in. (106.68 mm), less bracket and connectors.

Ordering Information

Stradis MPEG-2 Decoders are available in five versions:

SDM275	The complete 4:2:2 decoder with all analog and digital audio and video outputs. NTSC or PAL.
SDM250	A 4:2:2 decoder with analog video and balanced & unbalanced analog audio outputs, but no digital outputs. NTSC or PAL.
SDM026	A 4:2:0 decoder with only analog video and unbalanced analog audio outputs. NTSC or PAL. No genlock.
SDM025	A 4:2:0 decoder with only analog video and unbalanced analog audio outputs. NTSC only. No genlock.
SDM290	A new decoder with eight audio output channels, not covered in this document.

Cables and Accessories:

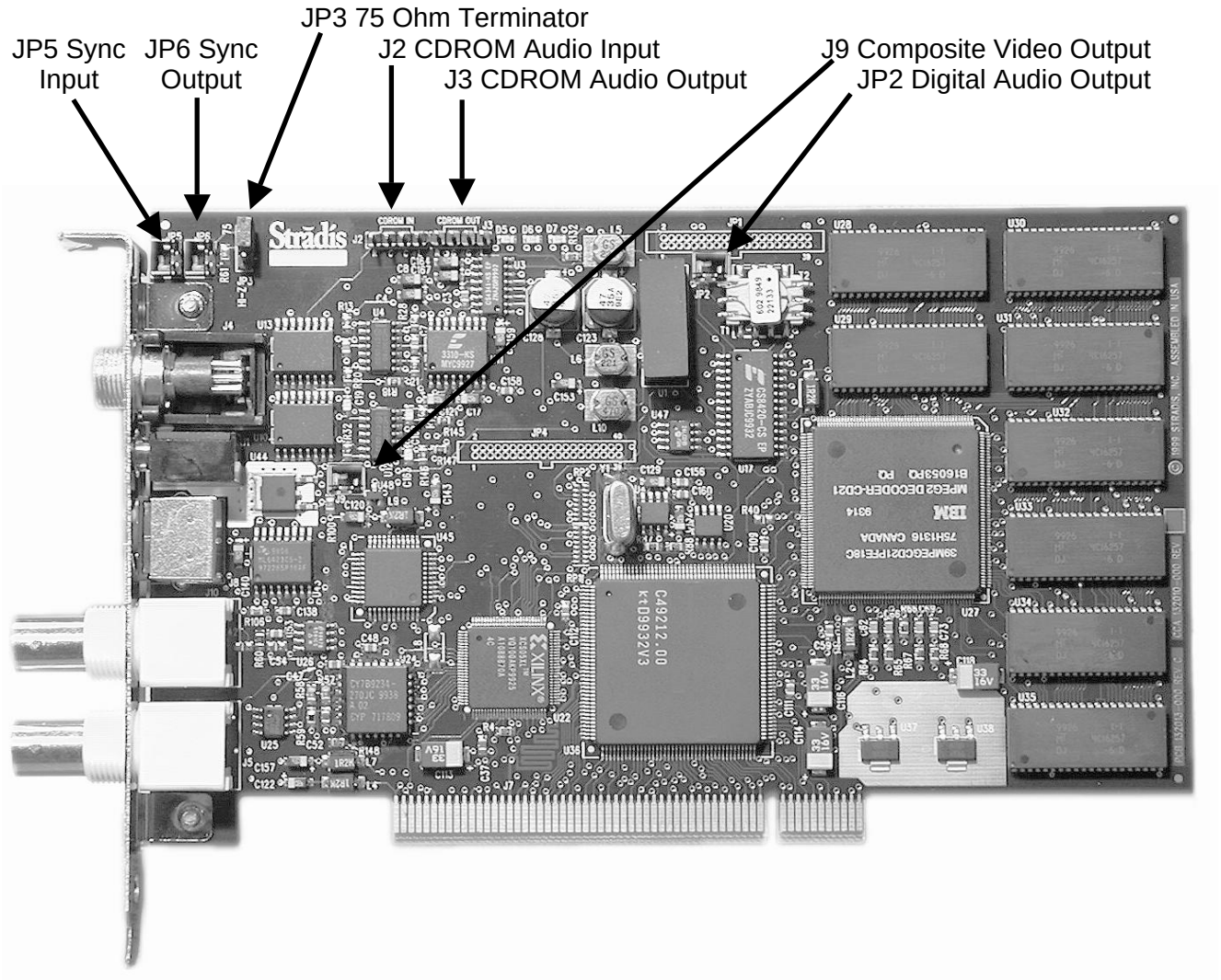
SAC001	3 XLRs to Tini Q-G for balanced and digital audio outputs
SAC002	PC bracket with BNC connector for sync-in or digital audio out
SAC003	2 XLRs to Tini Q-G for balanced audio outputs only
SAC004	PC bracket with 2 BNC connectors for sync-in and digital audio out
SAC005	Sync daisy chain cable when using multiple decoders in one chassis

Note: Specifications of these cables and accessories are available from Stradis for those customers who wish to make them themselves.

Hardware Installation

1. Turn off the power to the computer and any device connected to it such as a monitor, powered speakers, scanner, etc. Disconnect the power cord from the wall or uninterruptible power supply.
2. Touch a metal surface on the computer to ground yourself and to discharge any static electricity.
3. Remove the computer's cover.
4. Locate an unused PCI expansion slot.
5. Remove the metal cover from the back of the computer adjacent to the slot to be used. Do not lose the screw.
6. Align the Stradis MPEG-2 Decoder Card with the PCI slot and press it down into the connector. The card must be completely seated into the connector.
7. The Stradis MPEG-2 Decoder Card can be connected to play audio through the PC's sound card. Unplug your existing sound card cable from your CDROM drive. Reconnect it to the Stradis card's "CDROM OUT" connector. Plug another cable into the Stradis card's "CDROM IN" connector and plug the other end into the CDROM drive. See photograph, page 8.
8. On the SDM275, external sync can be feed into JP5 or JP6, located in the upper left corner of the card. JP3, nearby, selects between 75 ohm and Hi-Z termination. See photograph, page 8.
9. Secure the Decoder Card into the expansion slot by replacing the screw removed in step 5.
10. Replace the computer's cover and reconnect the power cables.
11. Proceed to "Installing the Device Drivers."

Onboard Jumpers and Connectors (SDM275)



JP5 and JP6 are used for sync-in or sync pass-through. JP3 can switch a 75-ohm terminator in or out. If you have two boards in one PC chassis that you wish to genlock to an outside sync source, you can use the SAC002 to feed sync to the first board. Set JP3 to Hi-Z on the first board. Using a SAC005 "Sync daisy chain cable when using multiple decoders in one chassis", you can then feed sync to the second board. Set JP3 to 75 Ohms on the second card. Or use the SAC004 bracket with two BNCs and you can loop the sync through. Some customers prefer this technique so they can use an external 75-ohm terminator.
J9 is an unfiltered video output. It is intended for applications where multiple boards need to be synced together, but not to an external source. Use a SAC005 cable from J9 on the first board to JP5 or JP6 on the second board. Additional boards may be daisy-chained. Set the first board (in software) to Genlock off and the other boards to Genlock on. All boards will now sync to the first board.

There are two options concerning digital audio. If you desire digital audio on a XLR connector, our SAC001 cable provides three XLR connectors, two for balanced audio and one for digital audio. If you desire digital audio on a BNC, use the SAC002 or SAC004 and connect to JP2. If you use a BNC for digital audio and still need analog balanced audio, use the SAC003. Do not use the SAC001 when JP2 is used.

J2 and J3 can be used to feed audio into a sound card and to loop CD-audio through the board. CD audio will only feed through to the sound card – it does not feed the other outputs.

Back Panel Connectors

Left & right balanced analog audio and AES-3 Outputs, Switchcraft Tiny Q-G® TRA6M,
Mates with: Switchcraft TA6FL Tini Q-G® straight female cord plug

Unbalanced stereo audio output, 3.5mm (1/8 inch) jack

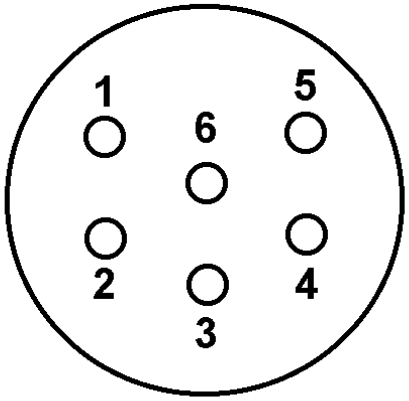
S-Video, Mini-DIN4 connector

Composite Video Output, RS-170A, BNC

White: Serial Digital Video Output, SMPTE 259M, BNC (SDM275)
Black: External Sync input, BNC (SDM250)

Stradis MPEG-2 Decoder Audio Output Connector

Switchcraft Tini Q-G miniature connector - TRA6M



1 Digital (AES3) +
2 Digital (AES3) -
3 Balanced Right -
4 Balanced Left -
5 Balanced Left +
6 Balanced Right +

view from front of connector

Installing the Device Drivers and the MPEG-2 File Player Application

The Stradis MPEG-2 File Player Application (SMPEGDEC.EXE) is provided for testing and evaluation purposes only. If your Stradis decoder is part of a third-party system, follow the installation instructions provided by your system provider. **DO NOT FOLLOW THESE INSTRUCTIONS.** Doing so may render the third-party software inoperative.

For Windows NT 4.0:

1. It is strongly recommended for correct installation of the hardware and associated driver, that you reboot the computer and run no other program before using the setup program.
2. Run `setup` from the Installation CD.
3. Enter the install password when prompted. The password is case-sensitive.

   Note: The password is printed on the CD.
4. Follow the instructions on the screen to complete the installation.
5. Reboot the computer.
6. Proceed to "Using the MPEG-2 Decoder Application for Windows."

For Windows 98:

1. It is strongly recommended for correct installation of the hardware and associated driver, that you reboot the computer and run no other program before using the setup program.
2. Run `setup` from the Installation CD.
3. Enter the install password when prompted. The password is case-sensitive.

   Note: The password is printed on the CD.
4. Follow the instructions on the screen to complete the installation.
5. If you are installing this software release on a system that had a Stradis device driver version 0.95 or earlier installed, the installation program will ask you to manually remove it using Device Manager. To access Device Manager right click on My Computer, go down the context menu to Properties, and then select the Device Manager tab. Expand the "Sound and Video Controller" section, select "Stradis Professional MPEG-2 Decoder," and click Remove.

   Note: If you are asked by the installation software to remove an old driver, it is very important that you do so before rebooting. Not doing so could cause the installation to become confused and will require manually removing a number of files.
6. Reboot the computer. Windows "Plug and Play" will now load the drivers automatically.
7. Proceed to "Using the MPEG-2 Decoder Application for Windows."

For Windows 2000:

1. It is strongly recommended for correct installation of the hardware and associated driver, that you reboot the computer and run no other program before using the setup program.
2. Access Device Manager by right clicking on My Computer, go down the context menu to Properties, and then select the Hardware tab. Click the “Driver Signature” button. You must set “File Signature Verification” to either “Warn” or “Ignore.”
3. Run `setup` from the Installation CD.
4. Enter the install password when prompted. The password is case-sensitive.

   Note: The password is printed on the CD.
5. Follow the instructions on the screen to complete the installation.
6. If you are installing this software release on a system that had a Stradis device driver version 0.95 or earlier installed, the installation program will ask you to manually remove it using Device Manager. Expand the “Sound and Video Controller” section, select “Stradis Professional MPEG-2 Decoder,” and right click and select “Uninstall.”

   Note: If you are asked by the installation software to remove an old driver, it is very important that you do so before rebooting. Not doing so could cause the installation to become confused and will require manually removing a number of files.
7. Reboot the computer. Windows “Plug and Play” will now load the drivers automatically. If you set “Driver Signature” to “Warn” you will be warned that Microsoft has not digitally signed the Stradis Driver. Click “OK” to complete the installation.
8. Proceed to “Using the MPEG-2 Decoder Application for Windows.”

Using the MPEG-2 File Player Application for Windows

> The MPEG-2 File Player Application (SMPEGDEC.EXE) is provided for testing and evaluation purposes only. If your Stradis decoder is part of a third-party system, follow the instructions provided by your system provider.

Control Panel Buttons:

Stop. Stop playing the current file or Play List. See Play List, page 23.

Pause. Pause the current MPEG file. Pressing or selecting Pause again will step the file to the next frame of video. Press or select Play to continue playing the file from the point where it was paused.

Play. Begin playing the open MPEG file or the Play List.

Loop. Repeatedly play the open MPEG file or the Play List.

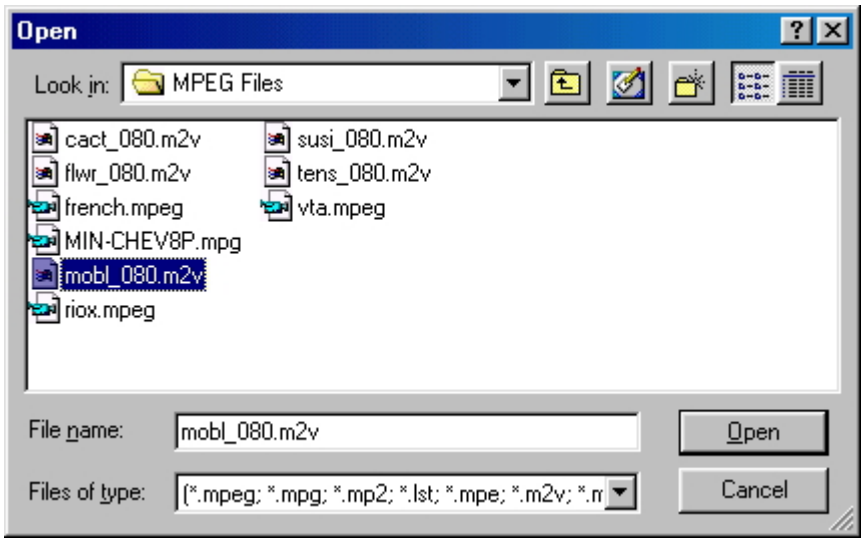
Fast. Play the video in fast motion. Since the decoder card does this by playing only I-frames, the fast play speed will be determined by the file's IBP structure and bit-rate. In general, lower bit-rate files will play faster than higher bit-rate files.

Menu Commands:

File

Open…

Opens the "Open" dialog box.



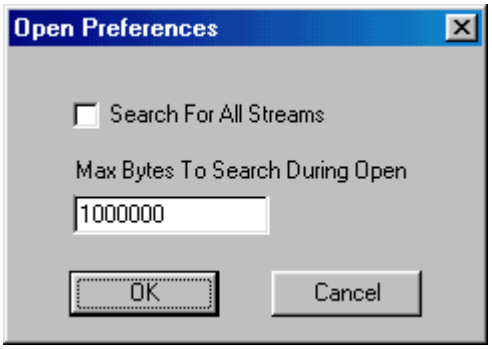
Also can open a Play List. See Play List, page 23.

Close

Closes the MPEG file that is currently open, but does not exit the application.

Open Preferences

Opens the "Open Preferences" dialog box.



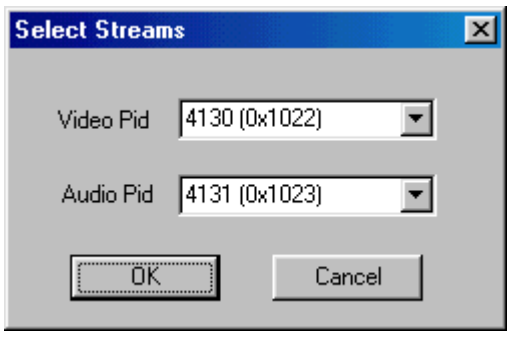
When the "Search For All Streams" box is checked, the MPEG file will be searched for Video and Audio Pids or IDs during File Open. "Max Bytes To Search During Open" (defaults to 1000000) specifies how far into the MPEG file to search.

Select Stream

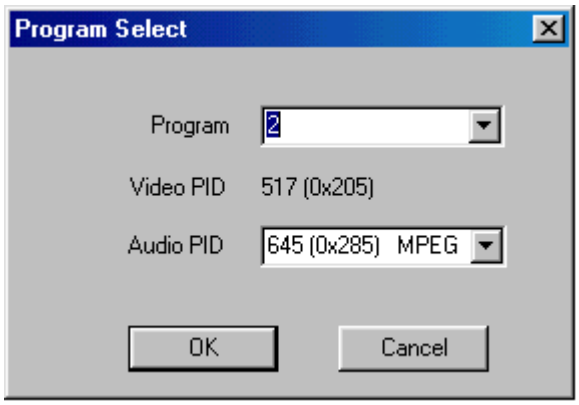
Opens the "Select Stream" or the “Program Select” dialog box.

When the "Search For All Streams" check box in the "Open Preferences" dialog box is checked and the MPEG file contains multiple video or audio streams, the specific audio and video stream to be played may be selected.

The Pids contained in the file (in the case of a Transport Stream) or the Stream IDs (in the case of a Program or System Stream) will be displayed in the "Select Stream" dialog box. The specific audio and video stream may be selected. If no stream is selected, the first audio and video stream encountered in the file will be played.

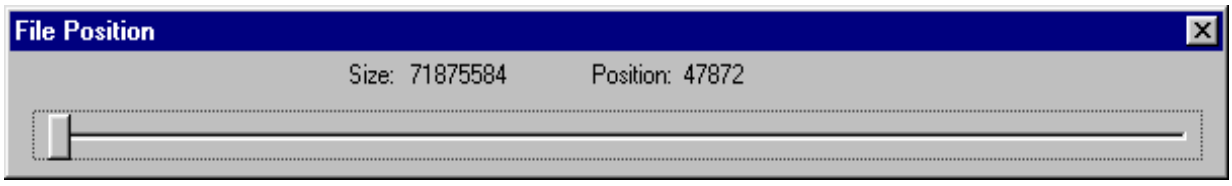


When the "Search For All Streams" check box in the "Open Preferences" dialog box is checked and the MPEG is a transport stream containing a “Program Association Table,” the “Program Select” dialog box will open. A “program” may then be selected.



Position Dialog

Opens the "File Position" dialog box with Seek Bar.



Size is file size in bytes. Position indicates the approximate location, in bytes, currently being decoded.

When an individual file is being played, you can seek to specific place in the file by dragging the progress indicator on the Seek bar. You can move backward or forward in the file. If the file was playing when the progress indicator is dragged, it will continue playing when the progress indicator is released. If the file was paused when the progress indicator is dragged, it will remain paused when the progress indicator is released. This feature is not available when playing files from a Play List.

Next File

When using a Play List, stop playing the current file and immediately skip to the next file on the Play List. Only active when there is a "next file" available.

Play [Ctrl-P]

Same as the Play button. Begin playing the open MPEG file or the Play List.

Loop

Same as the Loop button. Repeatedly play the open MPEG file or the Play List.

Slow Motion

Play the opened file in slow motion. Video may be played at 1/2, 1/3, 1/4, 1/5, 1/6, 1/7 or 1/8 actual speed.

Fast Forward

Same as the Fast Forward button. Play the video in fast motion. Since the decoder card does this by playing I-frames only, the fast play speed will be determined by the file's IBP structure and bit-rate. In general, lower bit-rate files will play faster than higher bit-rate files.

Still/Step [Ctrl-S]

Same as the Pause button. Pause the current MPEG file. Pressing or selecting Pause again will step the file to the next frame of video. Press or select Play to continue playing the file from the point where it was paused.

Stop & Rewind

Same as the Stop button. Stops playing the current file and "rewinds" it to the beginning. However, if the current file is a File List, skip to the next item on the list.

Reset

Reset the MPEG audio and video decoders. Only active when the decoder is stopped. Primarily used for testing, this command is not normally needed.

Exit [Alt-F4]

Close all files and closes the application.

View

VGA On

Turn on or off the display of the decoder output on the VGA monitor.

Use Overlay Mode

Places the VGA card in overlay mode. If the VGA does not support overlay mode, the warning box, "VGA card does not support overlay mode!" is displayed.

Keep Aspect Ratio

Checking this keeps the computer's display in 4:3 height to width aspect ratio when manually resizing the window. When unchecked the window can be manually sized into non-standard aspect ratios.

Window Size

Full Screen [Ctrl-F

Scales the video to display full screen on the computer display. Does not affect the video output. Only available when overlay mode is selected and available.

200%

Display video on the computer display twice full-size. Does not affect the video output. Only available when overlay mode is selected and available.

100%

Display video on the computer display full-size. Displays both fields of an interlaced frame. Does not affect the video output.

50%

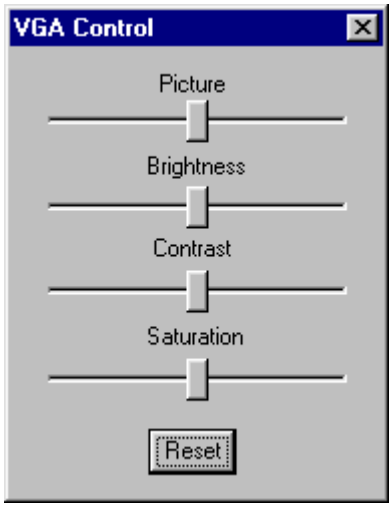
Display video one-half actual size. Does not affect video output.

25%

Display video one-quarter actual size. Does not affect video output.

VGA Control…

Opens the "VGA Control" dialog box. Controls the brightness, contrast, and saturation of the VGA video overlay on the computer monitor only. It has no affect on SMPTE 259M, S-Video, or composite video outputs.



View Stream Info

Displays information about the file, including Video and Audio PIDs, Stream IDs, Bit Rates, Aspect Ratio and more. Note that some of this information is extracted from data encoded in the stream header. If the data was incorrectly encoded, it will be displayed as encoded, but will not affect playback.

View SMPTE Code

Displays SMPTE Time Code. A time-code is encoded in each I-frame, typically at the beginning of each GOP. During playback, the time code is extracted from each I-frame. The time code is interpolated between I-frames.

View STC

Displays the System Time Clock.

Options

Video Standard (Active only when no file is open.)

Auto

The decoder will automatically select NTSC or PAL (B, D, G, H, I) based on the detected frame-rate.

NTSC

Only NTSC files will play. Attempting to play files in any other standard will generating a message box with "Warning: Selected Video Standard Incompatible with File."

PAL (B, D, G, H, I)

Only PAL (B, D, G, H, I) files will play. Attempting to play files in any other standard will generating a message box with "Warning: Selected Video Standard Incompatible with File."

PAL (M)

Only PAL (M) or NTSC files will play. Attempting to play files in any other standard will generating a message box with "Warning: Selected Video Standard Incompatible with File."

PAL (N)

Only PAL (N) files will play. Attempting to play files in any other standard will generating a message box with "Warning: Selected Video Standard Incompatible with File."

PAL (Combination N)

Only PAL (Combination N) files will play. Attempting to play files in any other standard will generating a message box with "Warning: Selected Video Standard Incompatible with File."

Monitor Type (Active only when no file is open.)

4:3

When 4:3 is selected and a stream coded as 4:3 is displayed, no action is taken.

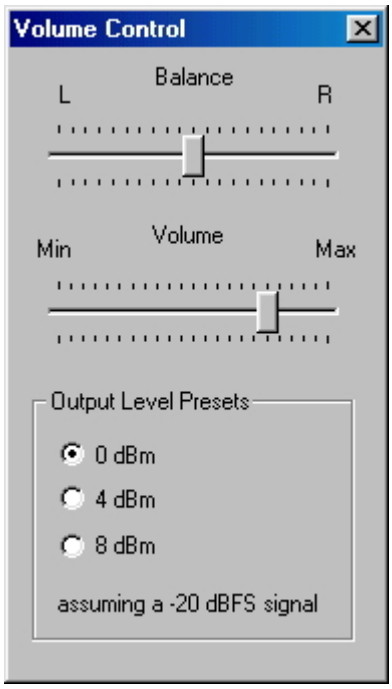
When 4:3 is selected and a stream coded as 16:9 is displayed, a 4:3 image in the proper aspect ratio is displayed using pan and scan information, if available. If no pan and scan information is in the stream, the left-most portion of the 16:9 image is displayed.

16:9

When 16:9 is selected, no action is taken regardless of the stream type.

Volume Control…

Opens the "Volume Control" dialog box. Controls the decoded audio output only. Does not affect CD-ROM "pass-through" audio. The volume and balance settings are written into the Windows registry and are remembered from session to session.



"Output Level Presets" select standard values of 0dBm, 4dBm or 8 dBm output levels, based on a -20 dBFS signal.

Digital Audio (Active only when no file is open.)

Consumer PCM

Places the uncompressed digital audio output stream in “Consumer Format.”

Professional PCM

Places the uncompressed digital audio output stream in “Professional Format.”

IEC 61937 Compressed

Mutes analog output and places the compressed digital audio output stream in “Consumer Format.” Used for outputting compressed AC-3 audio to an external consumer AC-3 decoder.

SMPTE 337M Compressed

Mutes analog output and places the compressed digital audio output stream in “Professional Format.” Used for outputting compressed AC-3 audio to an external professional AC-3 decoder.

Offset Time Code

Displays the System Time Clock.

GenLock

Checking this locks the output video sync to the incoming video sync.

Sync Mode (Active only when no file is open.)

System Clock

Uses the Presentation Time Stamps to synchronize video and audio. The audio decoder compares the audio PTS, when encountered, with the STC, and corrects the audio if the difference between the two is more than five milliseconds. The correction duplicates or skips samples periodically until the audio PTS is within the five-millisecond window.

Software

Audio and video are started within a half frame. No further synchronization is performed. However the audio and video clocks are locked together.

Single Field In Pause

When toggled on, the Pause command displays only a single field. Using this option will eliminate interlace artifacts when paused or in Slow Motion.

Closed Caption

Enable Pass Through

Closed Captions are decoded assuming that they were placed in the stream sequentially without regard to the actual frame with which they were originally associated. In this mode, the decoder simply passes the Closed Caption data as it is received and does not re-ordering them.

Enable Re-order

Closed Captions are decoded assuming that they were placed in the stream attached to the frame from which they were originally decoded. This causes the Closed Caption bytes to arrive at the decoder out of sequence (same as video frames). In this mode, the decoder must reorder the bytes to get them back into time sequence.

VITC Enabled

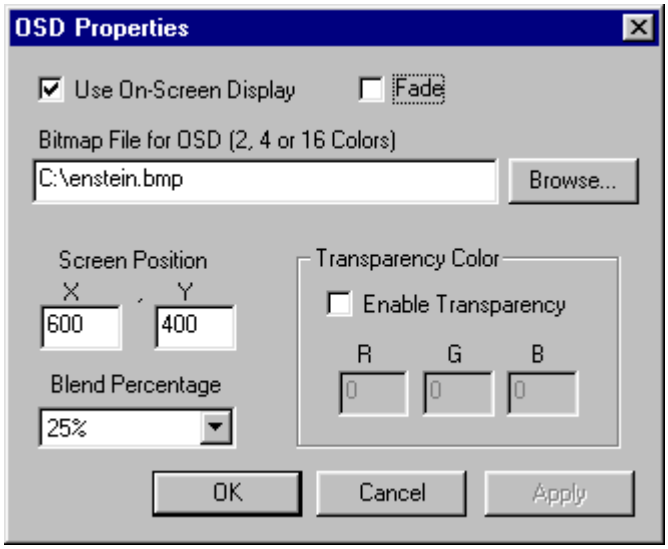
Places the SMPTE Time Code in the vertical interval in accordance with SMPTE 12M-1999. As outlined in SMPTE RP 164, VITC is placed on lines 14 and 16 when in NTSC and lines 19 and 21 when in PAL.

On-Screen Display…

Opens the "OSD Properties" dialog box, used to superimpose a Windows bit-map over video. Entering the X & Y coordinates of the upper left corner controls the position of the graphic on the screen. Note that undesirable results may occur if the X & Y coordinates entered position the graphic beyond the normal picture area (720 x 480 pixels in NTSC or 720 x 576 pixels in PAL).

“Fade” turns the fade option on. When fade is on, images fades in or out at the rate of 1/16th of full transparency per frame, up to the amount set in the "Blend Percentage" box.

"Blend Percentage" controls the amount of video that shows through the OSD



graphic. A Blend Percentage of 0% means that no video will show through. A blend percentage of 93.75% (15/16) allows the maximum blending.

The "Transparency Color" group sets a color to be transparent by using the Windows standard .bmp values of 0-255 for R, G, and B. All OSD graphic pixels with a matching RGB value will become transparent, that is that video behind will be displayed, not the OSD graphic. Note that Blending and Transparency operate independently.

The .bmp file must be a 2-, 4- or 16-color file and should have a width that is devisable by 8 (16-color) or 16 (2- and 4-color) and height that is devisable by 2. If the width or height is not divisible by the appropriate amount, the image will be cropped on the right and/or top/bottom (depending on the .bmp file) to fit into the appropriately divisible size.

Note: When creating .bmp files for OSD usage it is important to realize that NTSC and PAL monitors have rectangular pixels whereas computer monitors typically have square pixels. For NTSC, the width of the image should be about 10% (1.1x) wider when displayed on a square pixel monitor. For PAL, the image should be about 8% (.92x) narrower.

Test Pattern (Active only when no file is open.)

100% SMPTE Color Bars

Displays NTSC 100% Color Bars or 100% amplitude, 100% saturation PAL color bars depending on video standard selected by the Options - Video Standard command. If Auto is selected, the last video standard usedused.

75% SMPTE Color Bars

Displays NTSC 75% Color Bars or 100% amplitude, 75% saturation PAL color bars depending on video standard selected by the Options -Video Standard command. If Auto is selected, the last format played is used.

Luminance Ramp

Displays an NTSC or PAL linear luminance ramp depending on video standard selected by the Options -Video Standard command. If Auto is selected, the last format played is used.

Display from File …

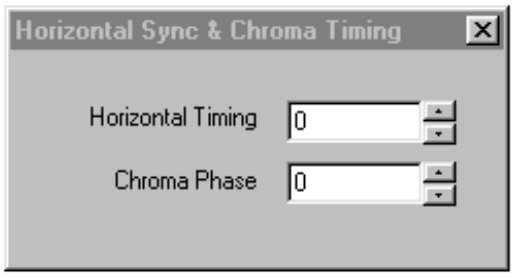
Display a stored image file.

The stored image can be either a standard Windows® BMP 24 bit RGB color image or a Stradis proprietary YUV format that is 720 x 480 pixels (when NTSC is selected) or 720 x 576 pixels (when PAL is selected). Images that are up to 1024 pixels wide can be used, but will be cropped to 720 pixels. Stradis provides a utility program (MakeYUV.exe) for converting BMP file into YUV files as part of the software distribution. The advantage to the YUV format is that it loads much faster than the BMP format.

Note: When creating .bmp files it is important to realize that NTSC or PAL video monitors have rectangular pixels whereas computer monitors typically have square pixels. For NTSC, the width of the image should be about 10% (1.1x) wider when displayed on a square pixel monitor. For PAL, the image should be about 8% (.92x) narrower when displayed on a square pixel monitor.

Video Timing Dialog

Opens the "Horizontal Sync & Chroma Timing" dialog box, used to control the horizontal sync offset and chroma phase when the board is in GenLock mode. The sync offset can be varied increments of 37ns and the chroma phase in increments of 360/256 (1.40625) degrees.



Note that the Video Timing Dialog is disabled when Video Standard = Auto. To use the Video Timing Dialog, a specific video standard must be selected.

Help

About the Stradis Professional Decoder

Display the software revision number and copyright information.

Multiple Decoders in a Single Computer

To use multiple Stradis MPEG-2 Decoders simultaneously in one computer, multiple instances of the decoder application (Smpegdec.exe) must be run. This can be done by adding the program argument -X where X is the decoder board number (1 through N).

Example: From the DOS command line enter the following commands to get two decoder applications running simultaneously,

```
Smpegdec -1
Smpegdec -2
```

You can also set up a Windows shortcut that has the -X as the program parameter where X is the board number (1 through N).

Play List

A Play List is a list of files to be played in a preprogrammed sequence. The list may be played once or it may be played continuously using the Loop button or command. A Play List must have the file extension *.lst*. All files in a Play List must be the same video format (PAL or NTSC).

Format:

[d:][path]*filename*
.
.
.

Example:

```
transport\riox.mpeg
MPEG2-8Mbit\susi_080.m2v
transport\french.m2t
MPEG2-8Mbit\flwr_080.m2v
transport\vta10.mpg
MPEG2-8Mbit\mobl_080.m2v
mpeg1\weezer.mpg
bike.m2v
mpeg1\broadcas.mpg
mb15.m2v
mpeg1\goodtime.mpg
```

Sample MPEG Files

Sample MPEG bitstreams may have been provided on the Stradis MPEG-2 Decoder Installation CD-ROM in the subdirectory “MPEG Files”. Such files were gathered from different sources and were encoded on a variety of encoders with varying quality. If present, these files are provided for research and demonstration purposes only. No warranty is given or should be implied that the bitstreams are free from defects, are fit for any purpose, or are free from infringement of any intellectual property right of a third party.

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